

Science on the Hill: Fires set to clear African land are stoking climate change

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by Allison C. Aiken

Each year in the dry season, flames sweep across a large swath of the African countryside, engulfing every kind of grass and woody plant in their way. From October through March in the northern hemisphere and June through November in the southern hemisphere, people torch the land to clear it, remove dead and unwanted vegetation, and drive away grazing animals.

That biomass burning is an ecological nightmare. Whenever these woody materials go up in smoke, small particles called aerosols escape into the atmosphere. The worst offender is black carbon, because it absorbs light so well. Once in the atmosphere, black carbon heats up the air around it, which is bad news for the climate. At least half of the black carbon in the atmosphere comes from biomass burning, and 30 to 50 percent of all biomass burning globally happens in Africa.

All those fires emit a plume of smoke that stretches across the Atlantic Ocean from Angola to Brazil. Smack in the middle of its path is Ascension Island, a lonely mid-Atlantic outpost that's home to a project to collect data about the aerosols within that plume.

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